Hepatitis C screening in Maryland:
A survey of provider practices

Amina A. Chaudhry, M.D.
Division of General Internal Medicine
Johns Hopkins University School of Medicine
Johns Hopkins Bloomberg School of Public Health

Overall Goals

- Assess knowledge, attitudes, and behaviors regarding HCV among adult primary health care providers in the state of Maryland.

Specific Aims: Primary

- Assess and compare HCV risk-identification practices among physicians and midlevel providers
- **Hypothesis**: midlevel providers will routinely ask about HCV risk factors more often than physicians

Specific Aims: Secondary

- Compare risk-identification practices by geographic location
- Assess screening practices (HCV-Antibody testing) and compare by provider type and geography
- Assess HCV attitudes and compare by provider type and geography
- Assess HCV knowledge and compare by provider type and geography
- Assess perceived barriers to HCV screening, referral, and treatment

Background

- HCV is the most common blood-borne pathogen in the US
- Leading cause of liver transplantation in the US
- Most chronically infected adults do not know their status
- Direct medical costs to surpass $1 billion/yr within the next 15 years

Screening Controversy

- **USPSTF**: insufficient evidence
- **CDC**: screen in high-risk (IDU, hemodialysis, blood products before 1992, known exposure)
- **NIH**: screen in above *and* incarcerated
- **VA**: screen in above *and* in Vietnam vets, tattoos, body piercings, cocaine or alcohol use.
- **ACPM**: screen in CDC groups *and* sexual partners of IDU.
- **French Consensus**: as the NIH

HCV in Maryland

- Estimated 65,000 (2/3) Maryland residents with chronic HCV do not know it

- Of reported cases 2001-2004 (MERSS):
  - Majority unclassified
  - 63% male
  - Approx. 7500 of 26,000 reside in Balto. City
  - 31% cases reported IDU as a risk factor

Challenges to characterizing HCV in Maryland

- Lack of access to care for high risk individuals
- No single clear clinical presentation
- Insufficient staff in local health departments
- Inconsistent protocols for collecting and reporting data
- Laboratory resources

Methods

- Survey Development
- Study Design
- Sampling Scheme
- Statistical Plan

Survey Development

- Literature review/published studies (New Haven, national US survey, France)
- Focus groups (NYSDOH and Health Now Foundation)
- Health department surveys (Multnomah County, OR)
- Consists of:
  - demographics
  - knowledge, attitudes, practices
  - series of clinical vignettes

Study Design

- Cross-sectional design
- Randomly-selected sample of providers
- Physicians, PA, NP
- Internal medicine, adult medicine, family medicine, geriatrics
- Mailed paper survey to 3000 (of 8059) providers
- Two survey versions, each with 10 vignettes

Sampling Scheme

- Stratify by provider type and sample proportionately
- Of 3000, send to 1890 (63%) physicians, 540 (18%) PAs, 570 (19%) NPs
- Oversampling of rural providers.

Statistical Plan

- *Primary outcome variable*: proportion of providers who routinely ask patients about HCV risk factors "most of the time" or "always"

- Secondary outcome variables:
  - HCV screening practices (vignettes)
  - HCV knowledge
  - HCV attitudes
  - Perceived barriers

- Power calculated based on 30% response rate and a hypothesized 40% difference for primary outcome

Power Calculations

Proportion of physicians asking about HCV risk factors "most of the time" or "always"	Proportion of midlevel providers asking about HCV risk factors "most of the time" or "always"	Effect size	Power
.30	.35	.05	0.798
.30	.40	.10	1.000
.30	.45	.15	1.000
.30	.50	.20	1.000
.45	.50	.05	0.753
.45	.55	.10	1.000
.45	.60	.15	1.000
.45	.65	.20	1.000

Data Analysis: primary outcome

- Descriptive statistics
- t-test, ANOVA
- Simple logistic regression
  - Age, degree, number of years since completed training, geographic location, specialty, acceptance of Medicaid and uninsured patients
- Multiple logistic regression

Implications

- Despite controversy, most authorities recommend continued risk-identification and screening in targeted groups
- Midlevel providers are assuming greater roles in primary care
- Help target specific providers that need resources
- Help guide future research to assess the effect of screening on outcomes

Sponsorship and Funding

- $2000 was awarded as a Capstone Development Award from the Johns Hopkins University Bloomberg School of Public Health to help defray the costs of printing and mailing the surveys.

- The Maryland Department of Health and Mental Hygiene provided large envelopes for survey mailing, and funding for return postage, as well as volunteers to assist with preparing packets for mailing.